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ABSTRACT

These guidelines are designated to help Maryland school system personnel and architects develop educational specifications and designs for new building construction or major renovation projects that include a library media center. The task force, which developed the standards, began this effort by gathering information on the State's school library media programs, by studying the role of these programs in implementing school improvement strategies, by visiting exemplary programs, and by reviewing state and national standards for school library media programs with national and local experts. As a result, it was recommended that schools provide every student access to a functional, well-equipped information center that supports the goals outlined in the State's school improvement program. The guide provides an overview of school library media programs and looks at the school facilities planning process. Special attention is devoted to library media center spaces and design considerations for school library media centers. (RJM)

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Maryland State Department of Education

Facilities Guidelines

for Library Media Programs

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All Aboard

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1998

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Introduction

Purpose

The purpose of these facilities guidelines is to assist local school system personnel and architects in developing educational specifications and designs for new building construction or major renovation projects that include a library media center with the capacity to promote and support learning in our information-rich society. Such a library media center is described in the vision for Maryland's school library media programs held by members of the School Library Media Program Task Force.

School library media programs are recognized as integral to student achievement because they provide all students and staff members with equal and timely access to ideas and information. Through an integrated instructional program, school library media specialists ensure that their students are effective users of ideas and information.

These guidelines supersede the facility and space guidelines outlined in the 1987 MSDE publication, *Standards for School Library Media Programs in Maryland.*

Background

The task force conducted its work during the 1996-97 school year at the request of the State Superintendent of Schools to determine the impact of school reform on Maryland's school library media programs. Additionally, the task force was asked, if appropriate, to recommend revisions to the school library media program standards outlined in the Code of Maryland Administrative Regulations 13A.05.04.01., *Public School Library Programs*, so that Maryland could realize this vision for all of its students and teachers. The task force addressed its work by gathering information on the current status of the State's school library media programs, studying the role of the library media program and the specialist in implementing school improvement strategies, visiting exemplary programs, and reviewing state and national standards for school library media programs with national and local experts. Based on these experiences they arrived at common understandings about Maryland's school library media programs. Several of these concepts impact school facilities. They include the following:

- School library media programs make significant contributions to student learning by providing access to information, an integrated program of information literacy skills instruction, and staff development in the use of information technologies to support the curriculum.

- Instruction by library media specialists in the use of computers and telecommunications has been invaluable in training staff and students to use the technology to retrieve, organize, and manage information.

- Facilities are not always built to accommodate the requirements of an effective library media program. Sometimes space appropriate for the variety of activities, such as study, research, instruction, group projects, computer use, and production is not always available or conducive to these activities.

As a result of their work, Task Force members recommended revising the standards document to better articulate ways in which the school library media program promotes school improvement. In addition, Task Force members made the following recommendation to emphasize the importance of school library media center facilities on student learning.

Provide every student access to a functional, well-equipped information center that supports the goals outlined in Schools for Success, Maryland's school improvement program.

Strategies required to accomplish this goal include revising Maryland State Department of Education facilities guidelines for library media centers and encouraging local school systems to develop and implement new models for library media centers as part of their capital improvement projects. This document sets forth guidelines to assist local school systems in developing educational specifications and encouraging model school library media centers that illustrate how these facilities enhance student learning. It is intended that this publication will be a companion document to the planned revision of the standards document. These models should demonstrate the library media center as a **hub of learning**. As a result of the learning experiences in their library media center, students should be empowered and equipped with the information skills and a love of reading to seek new ideas on their own, find relevant information, draw conclusions and make decisions. This empowerment will lead to lifelong learning using the resources and resource services of academic, public, and special libraries.

The development of the guidelines was a joint effort by the School Library Media Services Branch and the School Facilities Branch of the Maryland State Department of Education. Staff members invited local school system personnel, business community members, and public librarians to participate in the process of incorporating the recommended facilities planning process into the goals and objectives of the Maryland school library media program. Participants and reviewers included principals, library media specialists and supervisors, local facility planners, members of the business community, technology specialists, and public librarians. These people identified the components necessary for the ideal learning environment and described many of the factors that need to be taken into consideration when planning a school library media center renovation or new construction and developing appropriate educational specifications.

Chapter 1
School Library Media Programs

National and State Standards

The Maryland State Board of Education adopted standards for school library media programs in 1987. These standards were outlined in *Standards for School Library Media Programs in Maryland.* The standards include criteria for school library media centers that identify a number of spaces required for the implementation of a comprehensive, unified school library media program. A unified library media program provides access and instruction in the use of resources and resource services in a variety of formats and delivery modes, e.g., books, audiovisual, and online. Such a program requires spaces for circulation, exhibits, reading, research, viewing, listening, browsing, direct instruction, administration and management, storage, and electronic communications. Specialized equipment and furniture along with appropriate instructional materials are necessary for each of these areas to enable personnel to provide curricular support.

In 1989, the American Association of School Librarians (AASL) and Association of Educational Communication and Technology (AECT) published *Information Power*. This publication contained national standards for school library media programs which included criteria for library media center facilities similar to Maryland's specifications. Both documents, include guidelines with recommended space allocations which have been difficult for many local school systems to meet. Compromises have been made in many instances because of limited funding. In other cases, old buildings have been extremely difficult and very costly to renovate in order to meet the guidelines. Guidelines provided in this publication represent functional space allocations with an emphasis on creating a learning environment that is student-centered rather than on complying with numerical criteria.

Students must be able to achieve learning outcomes that will provide them with the skills to become information literate, independent learners and socially responsible. These outcomes are consistent with both state and national goals and are identified in the newly revised *Information Power* by AASL and AECT and in *Learning Outcomes for Library Media Skills* published by the Maryland State Department of Education.

The student who is **information literate**:

- accesses information efficiently and effectively;
- evaluates information critically and competently; and
- uses information effectively and creatively.

The student who is an **independent learner** is information literate and:

- pursues information related to personal interests;
- appreciates and enjoys literature and other creative expressions of information; and
- strives for excellence in information seeking and knowledge generation.

The student who is **socially responsible** contributes positively to the learning community and to society, is information literate, and:

- recognizes the importance of information to a democratic society;
- practices ethical behavior in regard to information and information technology; and
- participates effectively in groups to pursue and generate information.

Conditions necessary to ensure the achievement of the student learning outcomes are currently outlined in *Standards for School Library Media Programs in Maryland*, which will be updated to include the library media facility guidelines described in succeeding chapters. In the meantime, criteria essential for an effective program describe the following library media program components: philosophy; goals and objectives; instruction; staff; resources and resource services; facility; and program evaluation. The ability of standards to promote and ensure an ideal learning environment in the school library media center is enhanced by authentic learning experiences, connections and partnerships among students, teachers, administrators, and parents with the flexibility to adapt to a constantly changing world. When conditions are optimal, the school library media program should exhibit the following characteristics:

- All areas of the curricula supported with a relevant, quality collection, an adequate budget, and the implementation of a current collection development plan;
- Access on a regular basis to resource services in support of the Maryland Student Learning Outcomes and the High School Core Learning Goal;
- Services of full-time certified library media specialists and support staff;
- A program of information literacy skills instruction integrated with the total school curriculum;
- *Schools for Success* supported in the library media program as a component of the school improvement plan;
- Flexibly scheduled student and teacher use of the library media center to promote authentic learning experiences; and
- Technology incorporated into the delivery of the library media program and facilitated schoolwide.

Staffing Requirements

1. Professional staff

A certified library media specialist is essential for the effective implementation of a quality school library media program. Without a professional who has the prescribed competencies, various components of the library media program may not be available to students and staff or, if they are available, they are ineffectively implemented.

The professional competencies acquired in an approved educational media program are designed to prepare library media specialists for the many and varied tasks required to deliver a unified library media program. These professional competencies drive the library media program, which in turn determines facility needs. As an **information specialist** the library media specialist plans and implements collection development cooperatively with teachers and students in support of the curriculum. As a **teacher** the library media specialist provides an information literacy skills program that is integrated with curricula. As an **instructional partner** the library media specialist works with teachers and other staff members to plan and implement lessons and activities that promote authentic learning. As a **program administrator** the library media specialist develops budgets, plans for acquisitions, and supervises support staff and volunteers to ensure that appropriate resources and resource services, including audiovisual and technology resources, are consistently available to students and staff.

The roles of the library media specialist described above require a variety of space allocations within the library media center. Providing certified library media specialist and the appropriate library media center spaces maximizes the return on the investments made by the state and local school system.

2. Support Staff

In addition to the professional library media specialist, clerical and technical support staff are critical to the operation of a library media program. They supply the support services essential to the management of the materials and the installation, maintenance, and troubleshooting of technology equipment and software. Without their assistance, library media specialists have difficulty delivering an integrated program of instruction in support of the curriculum and providing efficient maintenance of the library media center materials and equipment.

Consideration for appropriate staffing is necessary for the successful implementation of a quality library media program. When planning for the new building construction or renovation of a library media center, it is essential to note the professional, clerical, and technical staff that would be required to successfully operate the facility. Staffing guidelines are outlined in Appendix 4 of *Standards for School Library Media Programs in Maryland*, MSDE, 1987.

Minimum Technology Capabilities

In order to ensure that all Maryland students and staff have equal and timely access to the library media center resources and resource services, the library media center facility in new building construction or major renovation projects is required to have an information/communication distribution system which can support the minimum capabilities listed below. These capabilities were outlined in a statement issued from the Maryland State Department of Education in 1996.

- Library media center resources are accessible from classrooms, home, other schools, and/or the public library; and
- An automated card catalog and circulation system provides access from the classrooms to the school library media collection.

To support the concept of a unified library media program the following additional resources and resource services should also be considered components of the library media center if they are provided in a school:

- A facility for producing and using multimedia materials;
- An interactive distance learning facility; and
- A centralized distribution system for video.

Not all schools will have these additional facilities in place.

Effective Strategies

These technological capabilities facilitate the following "best practices" in library media centers. They are cited in the research and described in further detail in the publication titled *BETTER-Information Literacy: Outcomes of the School Library Media Program*, MSDE, 1997. Facilities need to be designed to enable the implementation of the activities and practices described below:

- Cooperative planning to support information literacy as a process of gaining knowledge;
- Flexible scheduling both necessitates and provides collaboration and planning teams that emphasize the partnership role of the library media specialist with the classroom teacher;
- A student-centered environment brings together groups of students in varied activities, a natural setting for cooperative learning;
- Instruction that incorporates a variety of strategies (e.g., individualized, peer tutoring, small group sessions with classroom teacher and school library media specialist, small and large groups, production and presentation by students);
- Access to a variety of electronic information technology resources to teach information literacy skills; and
- A climate that supports a variety of instructional activities, including student reflection, peer review, and teacher coaching/consultation.

References

BETTER - Information Literacy: Outcomes of the School Library Media Program. MD State Department of Education, 1997.

Chapter 2
School Facilities Planning Process

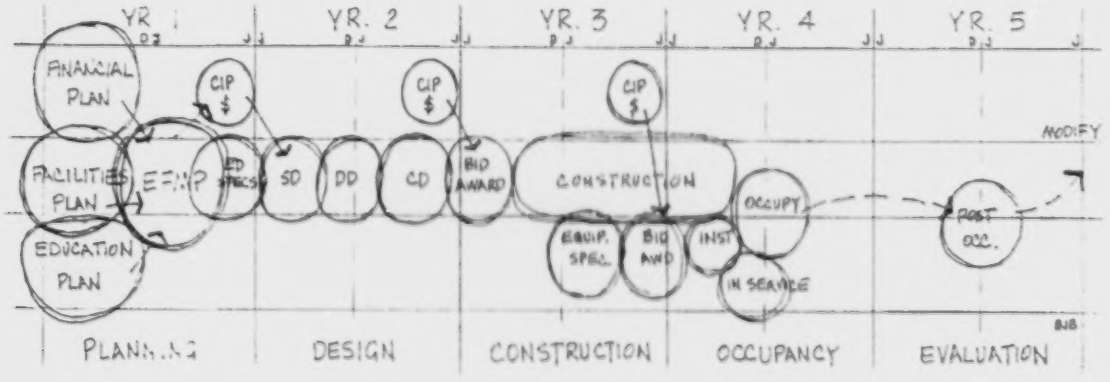
Introduction

The process of planning, designing, constructing, occupying, and modifying schools is a continuous multi-year effort requiring the close coordination and cooperation of numerous individuals, agencies, and companies. Large projects, such as new buildings and additions, are undertaken as part of a capital improvement plan with local and state funding. They involve the school library media specialist and administrator with facilities planners, administrators, budget analysts, funding authorities, architects, engineers, construction contractors, purchasing agents, and suppliers. Smaller projects, such as rearranging equipment or installing additional technology, can be accomplished at the school or district level and are under the direction of the library media specialist, the principal, and the school board staff. The steps in the process for large and small projects are similar.

Planning

The planning phase includes determining the need, defining a scope of work, developing a preliminary budget, and identifying a funding source. Decisions on needs and scope are made within the framework of an educational facilities master plan. Once a project is approved to proceed, a Planning Committee is formed to define the parameters of the project within a given budget.

TIMELINE FOR MAJOR CONSTRUCTION PROJECTS

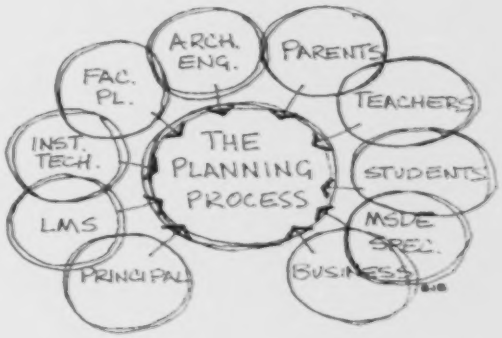


Many large school library media projects take place within new school construction or major renovation/modernizations. Other projects are specifically for the modernization or expansion of a library media center. In either case, the planning committee has a key role in the decision making process for the overall project. The planning committee prepares educational specifications for the project. The team is a collection of people with diverse interests and expertise. The planning committee may be involved throughout the entire process of facilities development, although its major impact on a large project is in the early planning and design phases. Planning committees vary in size and composition depending on the scope of the project, but all should include the significant involvement of:

- local school system facilities planner
- local school system library media administrator
- local school system instructional technology administrator
- project architect
- local school system maintenance specialist
- local school system construction project manager
- school principal
- school library media specialist
- school instructional technology specialist
- parents
- teachers
- students
- MSDE School Facilities specialist
- MSDE School Library Media Services specialist

For large and/or complex projects, additional planning committee members may represent other government agencies, neighboring businesses, residential communities, and other constituency groups.

THE PLANNING COMMITTEE



Often the local school board formally appoints the committee and provides a charge and a timeframe for action. When the committee convenes, the first steps are to clarify communication channels and identify who is responsible for key decisions. The local school system facilities planner is usually responsible for coordinating the process working closely with the school principal. They ensure that educational programs, budget constraints, and current facilities standards are incorporated into the project. The library media specialist, instructional technology specialist, teachers, students, and maintenance staff represent the future users.

The library media specialist and library media administrator are responsible for identifying the needs of the library media center and coordinating the proposed facilities requirements with other educational programs and school needs. They write program and space equipment lists.

The MSDE school facilities and library media specialist participate in an advisory role. They serve as resources on national trends, practices across Maryland, state-level standards, and as liaisons to other state agencies.

The architect may join the project during the planning phase or after the completion of the educational specifications. It is the architect's job to turn the text of the educational specifications into a design and then produce drawings and technical specifications which will form the contract documents for construction. When the architect is a participating member of the planning committee, the architect gains an understanding of the interrelationships of the various educational programs and gives other committee members technical design and construction advice. Where the architect is not hired until after the educational specifications are completed, the local system facilities planner and/or construction project manager provides the technical assistance.

Educational Specifications

Educational specifications are a text document describing the physical requirements for the project as an outgrowth of the educational program. They must be consistent with the local educational facilities master plan and the overall project scope, capacity, and budget as approved by state and local sources. They will guide the architect through the design and construction of the project. Two common planning errors are overestimating the amount of new space needed and proceeding with an incomplete program. The more comprehensive the analysis of existing conditions is, and the more detailed the project descriptions are, the better off the planning committee will be in working with the designers. The basic content of the educational specifications include:

I. Project Rationale
   - Introduction
   - Community
   - School board policies
   - Belief statements
   - Scope of work, budget, and schedule

II. Educational Program
   - Curriculum
   - Instructional methods
   - Staffing
   - Technology

III. Project Design Factors
   - Site conditions
   - Building systems (Existing/Proposed)

IV. Activity Areas
   - General organization
   - Facility and equipment requirements

V. Spatial Relationships Summary
   - Matrix or diagram

VI. Spatial Area Summary
   - Square footage list

In the Section IV of the educational specifications, the planning committee describes, in detail, each individual activity area for the educational program or supporting service formula. Each space is categorized by:

- Name of Space
- Educational Goals
- Activities
- Trends
- Number of Users
- Type of User Groups
- Space - Area, Height, Shape
- Relationships to Other Activities and Spaces
- Accessibility for Persons with Disabilities
- Acoustics
- Display
- Electrical Power
- Furniture and Equipment
- Heating, Cooling, & Ventilation
- Instructional Technology
- Lighting
- Plumbing
- Safety
- Security
- Storage
- Telecommunications

Design

In designing a facility, an architect starts with the general view of the program expressed in the educational specifications and gradually develops a very specific response to the program requirements. The final design products are construction documents - a set of instructions for contractors depicting in detail the intended facility. Each design phase builds on the previous work and reflects a dynamic process of interaction between the architect and the planning committee. The educational specifications are the foundation of design, but additional requirements are building codes, safety/environmental regulations, local/state standards and procedures, constraints imposed by funding, and existing conditions. The design schedule includes reviews, coordination, and approvals by numerous parties. Delays in response or late changes can expand the design time and may sometimes delay the start of construction.

Schematic Design

During the schematic design phase, the architect develops two or more preliminary site and building design solutions, each meeting major program goals. The successful design is very often a combination of elements from several schemes. The committee is not obligated to accept the first plan presented. After evaluating alternatives, the planning committee selects one solution which the architect refines through a process of review and revision lasting several weeks. This is the time to make changes and explore options. The design concepts approved at schematics are difficult to change at later phases.

The library media experts on the planning committee should monitor the schematic design closely for overall relationships between the library media program and other disciplines and for the relationships among library media center spaces. Within the spaces, there should be an indication that an appropriate layout can develop fro the space and proportions provided. Similarly, the instructional technology specialists will critique the design for wiring and networking requirements. At later design phases, the architect will provide large scale plans showing furniture and equipment and may be able to generate three - dimensional computerized tours of the building.

Design Development

During the design development phase, the basic elements articulated in the schematic design phase are developed and fine-tuned. The building's shape and individual room dimensions are finalized; fixed furnishings are equipment are located; construction details are begun; utilities and systems are developed and located and all aspects of the project take on greater depth and sharper focus. Plumbing, heating, ventilation, exhaust, cooling, lighting, electronic communications, and power systems are developed. Detailed cost estimates, energy analyses, and other data are presented and evaluated during design development.

The specialists on the planning committee have an important role at this phase because design development represents the first opportunity to get into the details of the design and may be the last practical opportunity to make substantial changes in the project. It is the time to convey to the architect and engineering design team the specific furniture and equipment requirements including type, manufacturer, electrical accessories, etc. It is also a good time to discuss finish requirements and detailed storage requirements.

Movable equipment and furnishings, although not typically funded and installed during construction, should be shown on design development drawings to convey the architect's understanding of the layout, circulation, and other design considerations. Large scale plans (one quarter inch equals one foot) showing furniture and equipment in each area will be available for review by the local facilities planner, administrators, and school staff. The library media specialist and administrator should mentally walk through and visualize all activities that will occur in the library media center.

At this phase the administrative and instructional technology networks in the school will be established. The school system or the architect may bring in technology consultants to write specifications for electronic communications systems. Close and detailed design coordination between the overall instructional technology network and the library media center is critical. In many schools, coordination is easy because the library media specialist is also the instructional technology specialist.

Construction Documents

During the construction document phase, the architect, engineers, and technical consultants produce detailed construction drawings and written specifications. All systems and elements are fully described, including demolition, site work, structural work, roofing, doors, windows, finishes, equipment, plumbing, heating and cooling, fire protection, lighting, power, and electronic communications. A detailed cost estimate is prepared. The architect is responsible for coordinating the work of the other consultants. On a large project there will be hundreds of pages of technical specifications and drawings. The school library media specialist, library media administrator, and other members of the planning committee continue to advise the facilities planner and architect on specific concerns as they arise.

Bidding, Award, and Construction

When the construction documents are completed by the architect, they are reviewed and approved by professional staff in the local school system and government agencies. Locally approved documents are then reviewed at the state level. Once the bid documents are approved, the project is advertised, competitive bids are opened, and the contract is awarded according to local and state procurement policies and law.

During the construction of a new facility, planning committee involvement is minimal. Access to the site is limited to the contractor, architect, owner's representative, and inspectors. Frequent observation by a knowledgeable owner's representative can be very important. Large school systems may have construction project managers on staff. Small systems may hire an inspector for the duration of a particularly large capital project or rely on the facilities planner and architect. The construction schedule developed by the contractor includes a reasonable time to complete the work. Significant changes are unusual during construction, but do sometimes occur and may require additional input from the planning committee and redesign. Construction delays due to bad weather, late shipments of critical materials, and many other unanticipated situations often develop. The local school system construction project manager is responsible for alerting the library media administrator to any proposed changes in the library media center and resolving issues which may arise.

If the project is the renovation of an existing facility, construction may be phased so that the school continues to operate while renovations takes place. If this occurs, close coordination is necessary between the facilities planners and the school staff to vacate areas on schedule and to isolate areas under construction. If the library media center is to operate out of temporary space, parts of the collection may have to be stored at a remote location. Providing services will be an administrative and logistical challenge for the school library media specialist and library media administrator.

Technology systems and networks will be provided as part of construction. The design, specification, purchase, installation, and building network testing of the technology systems are best performed during the general construction phase. The school system and school-based library media specialists and instructional technology specialists will be heavily involved with the development of the technology network.

Furnishings and Equipment

Once the construction is substantially complete, furnishings and equipment are installed. Some components may be installed under the general contract for construction, but frequently independently contracted vendors and school system personnel are involved as well. The school principal and the library media specialist must know clearly what items are in or out of the construction contract and what the school or system must provide. Scheduling staff training for technology systems and other instructional hardware and software requires special attention.

Some movable equipment items typically excluded from the general construction contract include:

- ☐ bookcases
- ☐ filing cabinets
- ☐ chairs
- ☐ carrels
- ☐ desks
- ☐ magazine racks
- ☐ tables
- ☐ television sets
- ☐ wall mount brackets
- ☐ wastebaskets

Occupancy

Once construction is complete, the staff and students will be authorized to move into the facility. Training in operating new instructional equipment and systems must be provided to library media specialists, and teachers before the students arrive. Maintenance personnel must become familiar with any new materials or finishes and their requirements, as well as with mechanical systems.

Moving an existing library media center collection is a major project in itself. The library media specialist must plan and carefully oversee packing, labeling, scheduling, delivery, unpacking, and placement of materials. This may require additional pay during summer moves. Before the opening day the library media specialist must anticipate the questions and needs of the students and teachers and ensure signs giving general direction, orientation, information are provided.

Post-Occupancy Evaluation

A post-occupancy evaluation can be an invaluable learning tool for the school system. Typically, a team visits the facility in the second year of occupancy. Using a checklist and comments from users, the team assesses the planning process and the final product. Facilities planners will use this information to revise local standards to benefit the planning of future school construction projects.

IAC Projects

The State of Maryland provides construction funding to school systems through the Public School Construction Program (PSCP) governed by the Interagency Committee on School Construction (IAC). School library media projects may be funded through the PSCP as part of new school construction, a renovation, or an additional to an existing school. PSCP staff and staff from supporting agencies, the Maryland Office of Planning, Department of General Services, and Maryland State Department of Education (MSDE), are available to assist in all phases or projects development.

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Guide for Planning Educational Facilities, Columbus, Ohio: Council of Educational Facilities Planners, International, 1991.

Chapter 3
Library Media Center Spaces

Introduction

The library media center (LMC) is designed with four major activity areas for students - study and research, instruction, production and group projects, and informal reading, supported by one major administrative area used predominately by staff. Computers are used in every area. General planning assumptions and the activities, users, space, furnishings, and relationships to other areas for each of the five major activity areas are described in this chapter.

The *study and research areas* provide access to information through printed books, reference books, periodicals, and nonprint materials such as videotapes and laser disks. In addition, electronic formats that provide information are CD/ROM and the Internet/worldwide web. This information is used to achieve the learning outcomes of the library media program and other content areas. Included are areas for the collections, computers, tables, carrels, and chairs for individuals and small groups.

The *informal reading area* is a place to encourage and promote reading of good quality literature through various age-appropriate activities in a relaxed environment. Included are facilities for activities such as storytelling and puppetry at the elementary level and browsing and independent reading at the secondary level.

The *instructional areas* are both enclosed and open teaching stations where small and large group instruction occurs in the use of information literacy skills, with an increasing emphasis on electronic data searches and retrieval. It is here that the library media specialist, working with the teacher, demonstrates the use of information technologies and teaches students how to access, analyze, organize, synthesize, manage, and present information. Students present their findings to demonstrate achievement of the learning outcomes in the content areas and to share their knowledge with their peers. Included are all the instructional materials and equipment one would expect to find in a multipurpose classroom such as tack and chalkboards, computers, printers, presentation equipment, televisions, and projection screens.

The *production and group project areas* provide the space and equipment students need to organize and present the information they have gathered, analyzed and synthesized from the research and study areas. Students frequently work in cooperative teams and need places to meet. Students produce and present their projects in a variety of ways - creating homepages

using HTML software, developing multimedia presentations, writing and illustrating reports with desktop publishing software, producing a video, or broadcasting a program on closed circuit television. Depending on the library media center program and resources, facilities may vary from simple tables and graphic arts supplies to quite sophisticated broadcasting studios. The production areas and equipment are also used extensively by teachers before and after school and during planning periods to prepare materials for classroom use and display.

The *administrative areas* provide work space for the library media center staff to maintain and develop the library media center collection and also to support instruction throughout the school. In a unified library media program, the library media specialist is responsible for providing direct instruction in library media skills, cooperative curriculum planning with classroom teachers, and coordinating, scheduling, and distributing electronic instructional technology. Included in this area are the circulation desk, book returns, offices, work rooms, audiovisual equipment storage, the communications distribution room, and secure storage for technology related items.

Planning Assumptions and Guidelines

The spaces described in these guidelines are intended to support library media programs in Maryland public schools. The following general planning assumptions and guidelines apply for student capacity, staffing, collections, and instructional technology.

The school is organized to provide a unified library media program. The school system is working toward, or has met, the staffing standards for school library media programs in Maryland developed by the Maryland State Department of Education under these standards. Students have regular access to certified library media personnel. Additional clerical and technical support staff are provided in order that the library media specialist may be involved in the instructional process. The school system is working toward or has met the collection guidelines in the standards for school library media programs in Maryland developed by MSDE. The basic collection is 12,000 library media items minimum for elementary schools, 15,000 items minimum for middle schools, and 18,000 items minimum for high schools plus access to on-line services.

The library media center should accommodate, at any one time, approximately 8% of the enrollment in schools up to 1500 students. The maximum capacity is 125 students. Additional library media center capacity in larger schools may be provided if staffing allows appropriate supervision and assistance. Most of the time the classroom teacher accompanies the class and provides instruction and coaching in the library media center alongside the certified library media specialist.

LMC CAPACITY (Typical Ranges)

	Elementary	Middle	High
Students enrolled in school	300 - 800	600 - 1200	1200 - 2000
Classes in LMC	1 - 3	3 - 4	4 - 5
Students in LMC	25 - 75	75 - 100	100 - 125
Classroom teachers in LMC	1.0 - 3.0	3.0 - 4.0	4.0 - 5.0
Certified LM staff per standards	1.0 - 1.5	1.0 - 2.0	2.0 - 3.0
Additional clerical/technical LMC staff per standards	1.0 - 1.5	1.0 - 2.0	2.0 - 3.0

High speed, networked computers for student use are required for catalog searches, data retrieval and Internet access. At least one computer is recommended for every four students in the library media center. A computer workstation for staff use is provided at the circulation desk. Each library media staff person should have a computer at his/her own workstation.

Each school should have at least one full time clerical/technical person assigned to maintain and troubleshoot the instructional technology and electronic communications systems. This position is often assigned to the library media program.

The School Library Media Center

The *Elementary School Library Media Center* is a supervised, child-friendly environment. Fortunate children come to school already familiar with many of the tools of reading, writing, and learning. They have had access to books, puzzles, games, videos, audiotapes, compact disks, and computers in their homes, pre-schools, and neighborhood libraries. Less fortunate children will encounter these materials for the first time in school. The school library media collection directly supports the curriculum and needs of the children in that school only. Children generally come to the

RECOMMENDED COMPUTER RESOURCES IN LMC

	Elementary	Middle	High
Student computers (high end, 486)	15 min - 19	19 - 25	25 - 31
Student printers	3 - 4	4 - 5	5 - 6
Staff computers (high end, 486)	3 - 5	3 - 5	5 - 7
Staff printers	1 min	1 min	1 min - 2

school library media center in whole class groups. They are always supervised by teachers, library media specialists, and aides. Much of their time in the library media center is directed and focused on particular skills and tasks.

The children's room at the public library is not synonymous with the elementary school library media center. The children's room reaches out to the broadest spectrum of parents, infants, toddlers, and children, providing developmental games and toys in addition to storybooks and reference materials.

The *Middle School Library Media Center* is a place for rapidly developing adolescents. Physically they are as small as elementary children and as large as high schoolers. They are living through growth spurts and complex new feelings. They are exploring all of life - physical, emotional, social, and intellectual. The best middle schools respond to these students with caring, supportive teachers and opportunities for each young person to develop fully. The middle school curriculum advances all the basic academic subjects, music, arts, and physical education programs begun in elementary school and introduces career technology programs, foreign languages, and special interest clubs. The middle school student still needs supervision and guidance, but demonstrates and wants more independence. The library media center is the student's main source of information for school projects and personal interests, supplemented by online services in the classroom and home and by occasional trips after school hours to local libraries.

The *High School Library Media Center* is the link between the school, the public library, and major research libraries. The teenage high school student is capable of independent and collaborative work. With supportive staff, time, and resources they thrive. Personal development and exploration intensify for the teen. Students select and test their first career paths and life directions. The library media center provides students and teachers with a solid basic reference collection to support the curriculum and personal inquiries, books and materials for reading pleasure and personal growth and access to a variety of electronic media, global networks, and high quality production equipment.

Activity Areas

Long Reach High School, Howard County, Maryland

The Study and Research Area

Activities:

The largest room in the media center is the "listening, viewing, reading" room. It contains the information desk, catalogs, online stations, references, and most of the collection. Students and other users consult with the library media specialist, look up information in print and online, make notes, find materials, skim through sources, think, and plan projects.

Users:

The students, library media specialists, and teachers are the primary users of the area.

The students work independently and in small study or project team groups. The instructional staff act as mentors, moving from person to person to answer questions and make suggestions.

TYPICAL LMC GROUPINGS

	Elementary	Middle	High
Classes @ 25	1	2	2
Small group @ 5	2	2	4
Seminar groups @ 10	1	1	2
Independents	5	5	10
Total Students	50	75	100

Space:

The study and research area is considered the academic heart of the school. As one of the largest rooms in the building it provides the designers with an opportunity to make bold architectural statements. The library media center represents tradition, monumentality, civic pride, achievement, progress, the unlimited future. Its space, height, repetitive elements, and lighting are used to create an impressive and important environment.

The area includes the stacks, the catalog, study and research tables and workstations, and a reference desk.

Collection and Stacks

The size of the room is determined by the size of the collection and the number of students to be served. MSDE has established minimum standards for the number of items in a collection, but leaves the make up of the collection to the local school board. MSDE standards for basic collection size are 12,000 items minimum for elementary schools, 15,000 items minimum for middle schools, and 18,000 items minimum for high schools. Items include print and nonprint media such as books, periodicals, videotapes, laser disks, software programs. The trend is toward less print and more nonprint, electronic and online resources.

The collection is subdivided into reference, general, special, and professional collections. Book stacks ideally are maintained at 80% capacity. This allows 20% of the shelf space to be available for new acquisitions, display, and rearrangements. A librarian's rule of thumb is 150 volumes per each three foot wide single faced section, seven shelves high. If each item in a collection was one inch wide and fit neatly on a standard stack section, the minimum space required for the collection would be 800 net square feet (nsf) in an elementary school. Obviously, all items are not the same size and have substantially different space needs. Periodical storage may be more compact. Picture book displays are more spacious with boxed cubbie shelving. In addition, most elementary schools limit stack height to four feet for easy access by small children. Many elementary and secondary schools use only low shelving in open space areas to permit visual supervision of the room. These requirements substantially increase the amount of space required for the collection. The collection will include: fiction and nonfiction books, periodicals, picturebooks, reference books, audiotapes, videotapes, CD-ROMs, multimedia kits, filmstrips, and microfilm/microfiche, each with specific shelving storage needs.

Catalog

Card catalog files and printed periodical indices are being replaced by computer work stations in the library media center. More than half the schools in Maryland have implemented automated circulation and/or card catalog systems. In the future electronic catalog data will be provided in all

schools on the building network and available on every computer in the school. It will often be accessed from the classroom, planning areas, offices, and other computers in the library media center. Nevertheless, several computers are required in the research and study area to be used predominately for reference to the catalog. Provide one catalog computer station for every ten students in the media center. Provide approximately one printer for every five computers.

Study and Research

Using the collections requires study tables, carrels, and chairs. Students need a place to sit and sort through stacks of books they pull from the shelves. They need a place to set their notebooks and hang their book bags as they move around the library media center, consult materials, and return to take notes. Consider providing cubicles for bookbags just outside the library media center entrance within sight of the circulation desk. The space for these activities needs to be visible from the reference desk for supervision and quiet enough to allow the student to concentrate on his/her work.

Individual research workstations must be provided with computers, CD/ROM players, or microfilm/microfiche readers. Each technology workstation should be a minimum of thirty inches wide and a standard twenty four inches deep to accommodate monitor, keyboard, mouse pad, and student notebook. Provide approximately one printer for every five computers. Hardware may be arranged on tables or in individual carrels.

When possible, provide slightly more seats than students (10-20%) in order to allow some choice in seating and room for papers and books. There should be a mix of individual study carrels and traditional four to six person library media tables. While clusters of tables may serve a secondary function for meetings or class instruction, the primary space need is for research and study by individuals and study partners. No more than 30 - 35 seats at tables should be clustered in any one area so that when used for instruction, a single class group could work without disturbing others.

Provide carrels in secondary schools scattered throughout the study and research area to allow independent access and study. Elementary schools may or may not include individual study carrels.

Reference Desk

The reference desk is generally designed to be staffed by one person. It should be easily seen by people entering the room and in turn have a good view of the research and study area. It requires at least five linear feet of work surface. There must be ample shelving and storage for references and for materials placed on reserve and comfortable circulation and waiting space for students in front of the desk. The area required is approximately 110 nsf. The reference desk is frequently combined with the general circulation desk.

TYPICAL LMC SEATING

Total Seating: Provide 1.2 seats for each student in planned LMC capacity

Type of Seating:

Study and research tables/chairs	80% of total seating
Informal reading area lounge chairs and sofas	10% of total seating
Research and study carrels	10% of total seating

Furnishings and Equipment:

The purchase of library media center furniture is among the largest expenditures a school will undertake. For the most part, stacks and casework will be expected to last the life of the school, some thirty to fifty years. They must be durable, easily maintained, attractive, and able to be rearranged. All shelves should be adjustable for height. All components should be movable by school system crews. Avoid specifying large bookcases that are too heavy to move and too long to fit in other configurations. A twelve foot long book case is less flexible than four, three foot sections. Shorter shelves are stronger and deflect less than long spans. Veneer plywood shelving will typically last longer than particle board and plastic laminate. Wood, metal, and high quality plastic laminates are acceptable materials for library furniture.

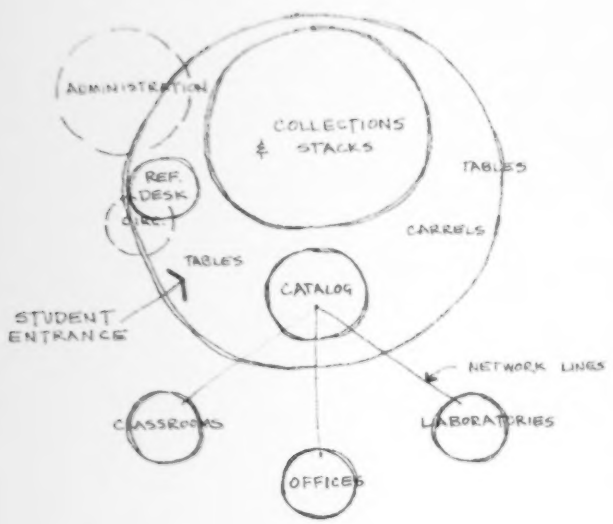
In elementary schools provide tables and chairs in two heights for small and large children, Also provide some adult sized furniture. Even in the elementary school, the media center will be frequently used by adults - teachers, parent volunteers, community members.

The furnishings must meet the guidelines for accessibility for persons with disabilities. A fundamental access consideration in the study and research area is to provide sufficient circulation space for persons using wheelchairs, braces, and crutches. A second consideration is to locate materials and controls within reach for persons who may have limited range of motion. Federal accessibility guidelines address library reading and study areas, checkout areas, card catalogs, magazine displays, and stacks. Accessibility requirements are described in detail in Chapter Four.

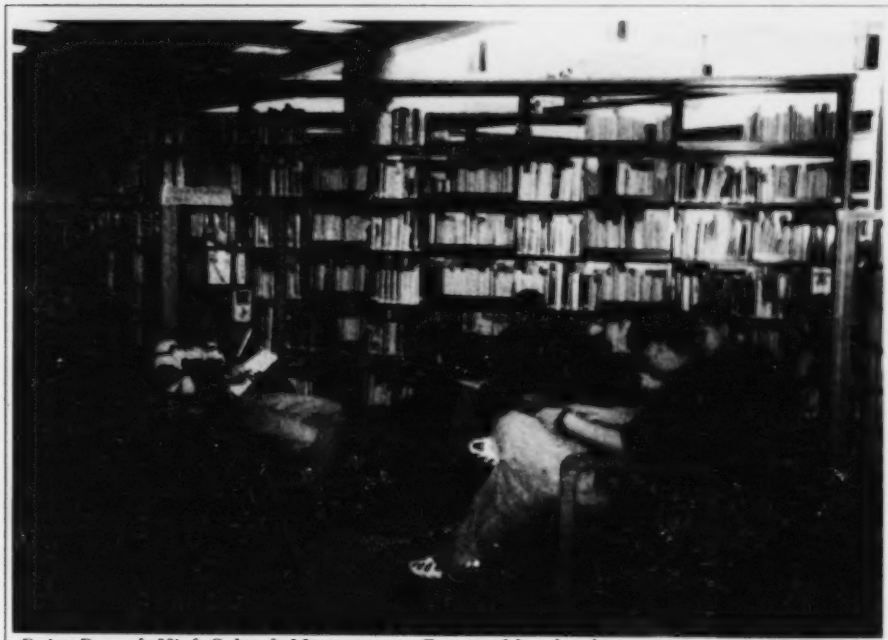
Relationships to Other Activities:

The study and research area should be adjacent to the library media center administrative area for the convenience of the media specialist and to the entrance for the convenience of the students.

STUDY AND RESEARCH AREA



The Informal Reading Area



Paint Branch High School, Montgomery County, Maryland

Activities:

The informal reading area is designed to encourage literacy, lifelong learning, and reading pleasure. Students may browse through new book acquisitions, fiction or picture books, current magazines, newspapers, and engage in quiet conversation in an informal setting. At the elementary level the activities also include storytelling, puppet shows, reading aloud to a class, and watching videos or listening to audiotapes of stories.

Users:

The informal reading area is used by individual students of all ages for a portion of their time in the library media center and by a whole class of elementary students with the teacher or library media specialist. Students may browse at the beginning or end of a class period or during a break in an extended study or research session.

Space:

Space for books and periodicals is required. Five to ten percent of the total collection is typically casual reading material with the greater percentage in elementary schools. Provide shelving for hardbound and paperback fiction and picture books, newspaper racks, and display shelves for magazines and picture books. Low book shelves or stack ranges may be used to give

a sense of enclosure to the area. Floor level changes and risers are difficult to include without limiting accessibility for students and staff with disabilities and overly restricting future changes in the LMC. Comfortable lounge style seating is appropriate. Furnishings, lighting, windows, color, floor treatments, textures, and wall treatments should support reading. The designer may be able to take advantage of good views and/or access to an enclosed outdoor space. Acoustic design through ceiling heights and adjacencies should keep sounds contained in this area. In secondary schools provide approximately one lounge seat for every ten students.

At the elementary level there must be space for at least one full class and an adult reader to sit comfortably. Cozy reading corners with rocking chairs and floor pillows are perfectly appropriate. A mini-stage area is needed as a focal point for simple presentations. Provide the ability to dim the lights in this area for audiovisual segments of the lesson.

Furnishings and Equipment:

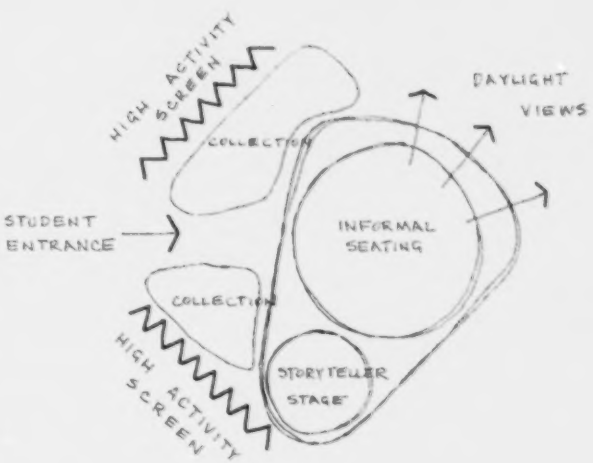
Sturdy, durable, casual furniture is suggested. Colors and textures should be warm and inviting. Children enjoy sitting on cozy cushions, rocking chairs, or simply sprawling on the floor. For older users upholstered chairs and sofas are comfortable. Furniture designs, finishes, fabrics, and colors should be selected with a mind toward timeless, classic design which won't soon go out of fashion.

Bookshelves, newspaper and magazine racks, and other collection storage in the informal reading area are designed to allow quick access and easy return of materials by the students themselves. Layouts must meet guidelines for accessibility for persons with disabilities. All materials in the informal reading area should be within accessible reach ranges, whereas in the stacks, books on high shelves might reasonably be retrieved by an able-bodied helper.

Relationships to Other Activities:

The informal reading area should be separated from high activity sections of the library media center by furniture and distance. It should be convenient to the entrance and check out area. Natural daylight and views through windows are desirable.

INFORMAL READING AREA



The Instructional Area

Staff Development at Oklahoma Road Middle School, Carroll County, Maryland

Activities:

The instructional areas in the library media center are used for formal classes taught by the library media specialist or other teachers. They are also a place to welcome a class to the library media center before they begin independent work and to assemble the class at the end of the period. They are frequently used for staff development training classes, meetings, testing, tutoring, or other small group work.

Users:

Users are the students and teachers in whole class or small groups.

Space:

The total number of instructional areas will vary with the size of the school and the specifics of the library media program. In general, each library media center should have at least two separate instructional areas. At some time, even the smallest school will have two or three separate class groups in the library media center at once. Each group should have its own space with enough acoustic privacy and independent control of lighting to promote order and concentration. The instructional area may be an open space part of the study and research area or may be an enclosed area defined by groups of shelving or partitions with glass windows.

Both areas must be fully equipped to support instruction with class seating, storage areas, a "teaching wall" with instructional technology, and display space. A large percentage of the library media skills taught by specialists involve computer use. Providing access to an adjacent computer lab or equipping one of the instructional areas with at least fifteen computers and three printers is desirable.

A typical classroom requires 30 nsf per seat or computer workstation. Seminar and small group rooms require 20 nsf per person.

Furnishings and Equipment:

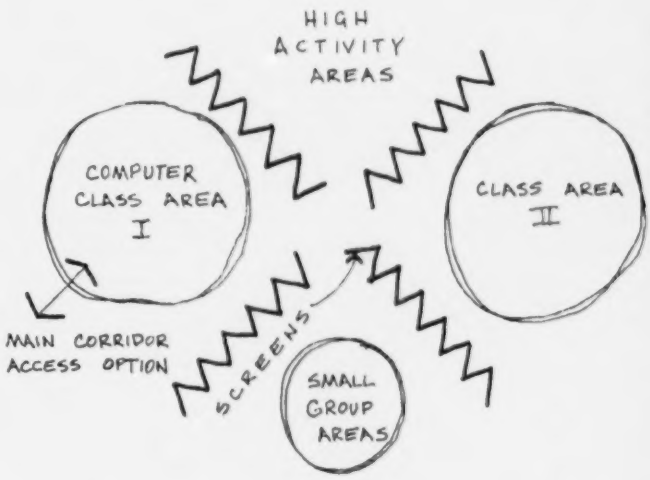
The instructional areas are furnished with typical age-appropriate classroom furniture - desks, small movable tables, chairs, movable computer workstations, work counters. Computer tables with wire management trays are less expensive and more flexible than custom designed casework. Since the area will be used by several teachers throughout the day, the teacher station may provide limited desk and storage space, but must have instructional technology connections and equipment readily available. Also include magnetic chalk or marker boards, tackboards, a permanently mounted projection screen, and numerous power outlets. At the elementary level furnish one area with higher and one with lower tables and chairs.

Relationships to Other Activities:

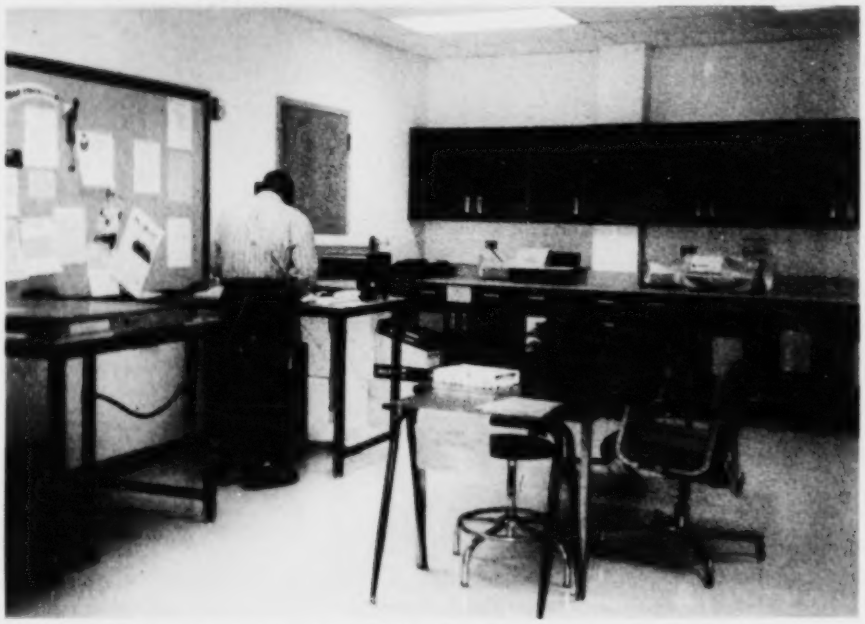
Instructional areas in the study and research area should be visually and acoustically separated from each other and from high activity areas such as circulation and reference desks.

If an enclosed library media center computer lab is provided, it should be located to allow the greatest flexibility to serve other instructional programs as the need arises over the life of the building. In addition to a door from the study and research area provide a separate door to a main school corridor for use by non-library media program classes.

INSTRUCTIONAL AREA



The Production and Group Project Area



Broadneck High School, Anne Arundel County, Maryland

Activities:

Students at all grade levels are encouraged to work cooperatively on research projects and to present their findings appropriately and creatively. Information gathered in the library media center may be used in written reports, translated into two-dimensional charts or three-dimensional models, or combined with audio, video, photographic, and computer generated materials. Activities may include videotaping, live cable broadcasts, editing, desktop publishing, producing computer graphics, and photocopying.

Student teams will meet in the library media center to plan projects, carry out individual assignments, and correlate their work. They will have hands-on time on special equipment and technology which may be located only in the media center, such as a TV studio. In a unified library media program, special hardware, software, equipment, and facilities will be centrally located and supervised by library media staff. Students and teachers from all subject areas will have access. Where resources permit the school to acquire additional equipment, it may be inventoried by library media staff but located in related program areas, such as technology education, business, arts, or drama.

Users:

The primary users of the production and group project areas are students working in small groups. They are assisted by teachers and library media specialists. Special equipment and technology may also be available to teachers and students from other schools in the district and to community members.

Space:

The production and group project area provides well organized and functional work and meeting space for individuals, teams, and classes on a temporary, scheduled basis.

The area includes facilities for media production by students and staff and may include small project workrooms, a tv studio, a control room, a taping and editing area, and a multimedia, computer graphics/desktop publishing work area.

Library Media Production

The library media production room houses equipment and supplies used by library media specialists to maintain the collection, by teachers to prepare instructional materials, and by students to prepare presentation materials. The library media staff train and supervise the users. Equipment includes computers printers, copiers, paper cutters, and laminators. The space requires good task lighting, a sink, wide work surfaces, electrical and mechanical systems to support the equipment, and sufficient space to allow simultaneous use by more than one person. It should be convenient to the administrative work area and to storage.

Project Meeting Area

Small groups of students and teachers need to confer about their production project. Tables in the general study and research area are used, as well as tables and work counters in enclosed production or seminar rooms.

TV Studio

TV studios are used for videotaping presentations or performances, live cable broadcasts within the school such as daily news shows and announcements, and as a video conference or distance learning facility. Smaller, lighter cameras and recording equipment which work well in natural light now give students the option of taping anywhere. The school system administration needs to decide specifically on the level of production to be offered and provide facilities to meet that level. Many high schools will include a formal TV studio. At elementary and middle schools a formal TV studio is optional.

Broadcasting studios require special sound isolation, power, lighting, and room heights. Where TV studios are provided they should be designed as studios, not as classrooms or workrooms. Students require access to high quality facilities and equipment to experience, learn, and do their best work. The studio space should be large and highly

changeable. The room generally should be square with a 12 foot high ceiling and no exterior windows. It must have good sound isolation. Walls, floors, and ceilings may be unfinished, with theater curtain backdrops and a pipe grid hung from the ceiling for lights and microphones. Sets are designed and constructed by students. They are moved in and out of camera range as necessary. Floors are frequently repainted for productions. The amount of space required depends on the type of cameras and sets proposed. A typical space may be thirty by thirty feet.

If the room is designed and furnished for other uses as well, additional space will be required to store excess furniture while taping. Any furnishings must be easily moved.

At the elementary and middle school level, a less sophisticated space is required. The "studio" may consist of a curtain or other simple backdrop, a few ceiling mounted track lights, a camera mounted on a tripod, and wires run to the central equipment. This area can be combined with seminar, group project, production, or storage rooms.

TV Studio Control Room

The control room must be enclosed, large enough for small group instruction, and accessible to persons with disabilities. Typically operators sit on stools or chairs at equipment located on desk height counters with a clear view into the studio. Wiring and sound systems into the studio are designed by experts and may be very sophisticated. Additional monitors and back-up units are often provided. Extra counter space is needed as more than one student will be working at a single station and a technician or teacher will be coaching. The space behind the counter must be at least five feet wide to permit a user to turn a wheelchair around.

Taping and Editing

The library media program may provide portable video and audio equipment for use in any location. Although taping is remote, recording and editing equipment must be permanently assembled and available in a central location. Provide a space with good sound isolation, ample work surfaces, lighting, ventilation, and power. The taping and editing equipment may be installed in its own, separate room or in other instructional, production, or administrative areas. Avoid locations near high activity areas and noisy mechanical units.

Multimedia Production

Each elementary school should have at least one multimedia production station available to students in the library media center. It may be located in the open production or study and research area. In middle and high schools consider providing small project rooms with tables for one or two workstations. These spaces may also be used for small group work, seminars, or conferences.

Desktop publishing, computer graphics, and multimedia productions require larger than standard computer workstations to accommodate the computer, a large monitor, papers, layout materials, at least two operators, and frequently, a teacher coach. Efficient L or U shaped stations are appropriate. Space for printers, scanners, a VCR workstation, paper, and graphic art supplies is required. This is an active, noisy area because of the team interaction and noise of printers. At least 60 nsf per station is recommended.

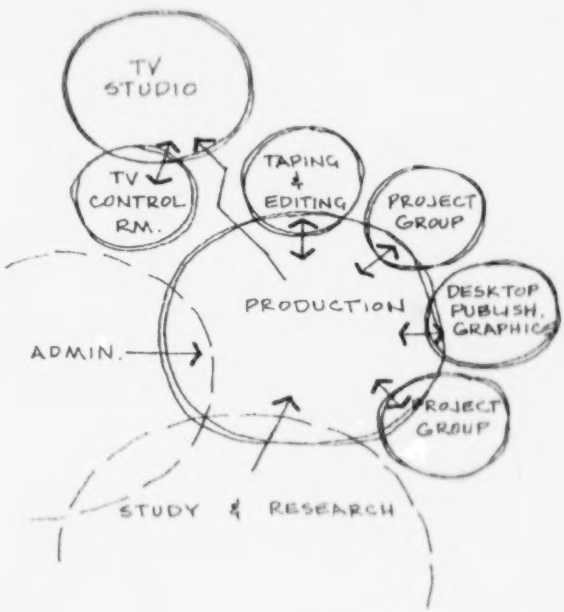
Furnishings and Equipment:

As with other areas of the library media center furnishings must be sturdy, durable, and comfortable. Built-in counters must provide appropriate heights, knee clearances, and access to controls to be accessible to individuals with disabilities. Ergonomically designed swivel chairs should be provided at control room and computer stations. All furnishings should be adjustable and able to accommodate hardware from many suppliers. Special wiring considerations and design are required throughout the production and group project area.

Relationships to Other Activities:

Direct access to the TV studio, control room, and taping and editing room should be limited to avoid disturbances while taping. If used for distance learning classes or public conferences access should be convenient to the entrance to the library media center. For technical assistance and supervision, locate the production and group project area near the library media center administrative area.

PRODUCTION AND GROUP PROJECT AREA



The Administrative Area

Sandymount Elementary, Carroll County, Maryland

Activities:

The library media specialist is an information and educational technology specialist, a teacher, an instructional partner, and a program administrator. Many of the management, clerical, and technical activities required to operate the program occur in the library media center administrative area. Activities include general office functions and the technical operation and support for instructional and administrative technology systems.

Users:

Library media specialists and the clerical/technical staff are the primary users. Other teachers, instructional aides, parent volunteers, and student assistants may also have access.

Space:

The administrative area must be an attractive, functional environment for the staff. It also serves as a transition zone between student and teacher realms in the school. The space includes the circulation desk, office areas, a communications distribution room, and audiovisual equipment storage.

Circulation Desk

Like the main office of the school, the library media center administrative area must be inviting and welcoming, yet maintain a degree of separation and control. The circulation desk is often the focal point of the library media center. It must be comfortable for seated and standing adults and have sections low enough to be accessible to children and to persons with disabilities. It must relate to the overall interior design of the room.

It requires a bin and student circulation space near the entrance for quick book return by entering students and teachers. Additional space is needed for students to wait to ask questions and to check out materials. It is equipped with a computer, a printer, and a telephone. Stacks for reserved materials or special collections assembled for particular class assignments may be behind the desk in this area. The location and shape of the desk must permit good visual supervision of the library media center. At a minimum the desk should be made up of components totaling approximately ten to twelve linear feet with areas for book return, general information, and check out. The typical space required is 150 - 200 nsf. In a large library media center a separate, additional information desk may be provided in the study and research reference area.

Office Work Space

Typical office space is required for each library media staff person. Both open space and enclosed offices are appropriate. Provide windows in the office partitions to allow visual supervision of the library media center. Senior staff may have private offices. Junior staff may have desk space within larger library media production and processing rooms. Workstations should be designed for efficient processing of new library media materials, repair of books and periodicals, and good access to information technology. Telephones, computers, fax machines, copiers, and other business equipment are essential. Natural light, views to the outdoors, colors, and surfaces are important. Provide a sink with hot and cold water for clean up before and after handling library media processing materials. Provide ample counter space and storage. Space for meeting with at least one visitor should be provided for each staff member. Storage for office supplies and personal belongings is required. Assume an allowance of 145 nsf per office worker to cover personal work space, general files, coats, storage, reception, and meeting areas.

Communications Distribution Room

Technology specialists recommend a centralized communications distribution room (CDR) be provided in every school. The CDR houses the equipment necessary to receive external electronic communications systems and distribute them throughout the school. Included are telephone lines, cable television cables, computer network hubs, audio and video distribution systems, CD/ROM towers, and file servers. When the library media specialist is responsible for the

technology, the communications distribution room must be accessible directly from the library media center to enable the specialist to correct problems without leaving the center unsupervised. Access from a corridor is also desirable for use by service personnel and other administrators.

The CDR should be a secure, uncluttered space with good lighting, protected power supply, and climate controls for temperature and humidity. Some equipment will be wall mounted. Many items will be on racks. Secure storage for software, service manuals, disks, tapes, and supplies is necessary. The workstation for the technology specialist may be in this room. Plumbing lines and other potentially damaging items, such as coffee pots or water coolers, should not be in or above this room. Depending on the size of the school and the technology programs, the space required can vary between 150 and 300 nsf. Library media program, instructional technology, and administrative technology administrators will be involved early in design to plan this room. MSDE standards for distribution systems will also apply.

Audiovisual Equipment Storage, Repair, and Distribution

The unified library media program includes responsibility for distribution of audiovisual equipment throughout the school. Where each classroom is well-equipped with an overhead projector, projection screen, television, VCR, telephone, and computers, the audio- visual equipment storage, repair, and distribution room included in the library media center may be sized to store only a small number of back-up units. A small repair table or counter, and storage for peripherals, such as videotapes, microphones, cables, service manuals, extension cords, and small parts, are required. A door to the corridor is desirable to make moving equipment convenient to teachers. The amount of space required increases if many items are shared and must be logged in and checked out daily.

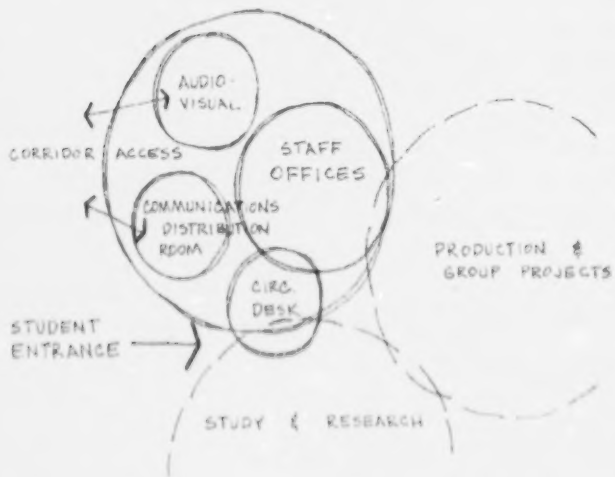
Furnishings and Equipment:

Furniture for the library media staff should be equivalent to that provided for other administrative and instructional staff. Each staff member needs a desk, chair, computer, personal files, bookcases, and guest chair. Typically printers, work tables, supply storage cabinets, book trucks, processing equipment, printers, and coat closets are shared. Paper recycling bins may be scattered throughout the work areas. Tack boards and signs will be posted near all equipment to address operational rules and provide information to users. Storage units should be durable, stable, and adjustable. Carts and equipment stands should be heavy-duty, stable, and easy to move. Provide ergonomically designed, swivel chairs on castors for staff. The information desk is best assembled from smaller components which can be rearranged or relocated in the future. Movable bins, book trucks, and sorting shelves to accommodate all sizes of materials are an integral part of the information desk and administrative area.

Relationships to Other Activities:

The information desk must be adjacent to the main entrance, the research and study area, and the administrative area. Corridor access to the communications distribution room and the audiovisual room is desirable.

ADMINISTRATIVE AREA



General Space Requirements

The library media center areas require approximately six net square feet for each student enrolled in the school. The number may be slightly larger (7-8 nsf) in very small schools and slightly smaller (5 nsf) in very large schools. Six net square feet is a general guideline - a starting point for planning. The space planning worksheet summarizes the key activity area requirements described in Chapter 3.

Exception: Minimum Space Requirements

Each school should have a designated space for library media programs even where local school systems do not meet collection and staffing standards. Although not recommended or desirable, there are occasions when the facilities planner must address space needs for inadequate library media programs. In situations where collection size and staffing are low and not expected to increase, provide one large room to house the collections and serve as a combination reference and instructional area. Provide a workstation for a library media specialist which may double as a circulation desk. Provide voice, video, and at least four data connections. The minimum collection size is 12,000 items plus access to online Internet services. Provide seating for at least one class - approximately 30 seats. The lowest acceptable space allocation is three net square feet per student enrolled.

LMC SPACE PLANNING WORKSHEET

School Name _____
Proposed Enrollment_____
Proposed Staffing _____

Planning Assumptions:

	Guideline	Capacity/Quantity
LMC Capacity	8% total enrollment (max. 125)	_____
Total LMC Seating	1.2 x capacity	_____
80% at tables		_____
10% at carrels		_____
10% informal		_____
Student Computer Stations	1 for every 4 students	_____
Student Printer Stations	1 for every 5 computers	_____

Spaces Needed:

Typical Activity Areas	Guideline	Net Square Feet
Collection & Stacks	800 nsf minimum	_____
Circulation Desk	150-200 nsf	_____
Communications Distribution Room	150-300 nsf	_____
Student Computers	30 nsf per station x _____	_____
Student Printers	12 nsf per station x _____	_____
Seating at Tables	20 nsf per seat x _____	_____
Seating at carrels	30 nsf per carrel x _____	_____
Informal seating	20 nsf per seat x _____	_____
Story area (elementary only)	10 nsf per child x _____	_____
Administrative Office/Staff	145 nsf per LMC staff x _____	_____
Production Area Allowance		
Additional Program Areas		
Instructional Area or classroom(s)	30 nsf per student x _____	_____
Seminar or Project Room(s)	20 nsf per student x _____	_____
TV Studio	900 nsf	_____
Control and Editing Room(s)	100 nsf minimum	_____
AV Storage Area	As Required	_____
Other_____	As Required	_____
Other_____	As Required	_____

Target Space Allocation:

6-8 nsf per student enrollment below 600 _____
6 nsf per student enrollment 600-1200 _____
5-6 nsf per student enrollment above 1200 _____

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Chapter 4
Design Considerations for School Library Media Centers

Introduction

The school library media center is an essential part of every school. It is a place where classes of students and individuals are taught skills and gain valuable knowledge and experience to carry them through a lifetime of learning. It is a place where teachers find supporting information on many subjects and receive assistance from colleagues.

The library media center has evolved rather than been revolutionized. Some trends in development are unmistakable. The increase in instructional technology is one. Computers are replacing card catalog files. Videotape cassettes have replaced filmstrips and themselves will be replaced shortly by digital videodisks. Smart remote controls and pre-programmed timers operate the equipment. Voice, video and data technology is applied in every area of the library media program. The increase in computer use has not made books and hard copy references obsolete nor eliminated the need for a space for the school library media center. Students will have some resources readily available in their classrooms. Encyclopedias, the library media center catalog, and various online Internet services will be accessible from the classroom computer. The demand for library media access and instruction in research skills may increase as students and teachers are able to come to the library media center already prepared with extensive lists of materials to retrieve.

Space needs will change as schools maintain much of their current collections and add materials in different formats. For example, back issues of magazines and newspapers do not need to be kept if microfilm or electronic copies are available. This eliminates the need for periodical storage rooms. Yet, at the same time, a centralized video distribution system requires space for VCR racks and videotape storage.

Typically, access to catalogs on computers requires more space for the same number of students than card catalog files did. Similarly office workers now need space for computer/printer stations in addition to desk space.

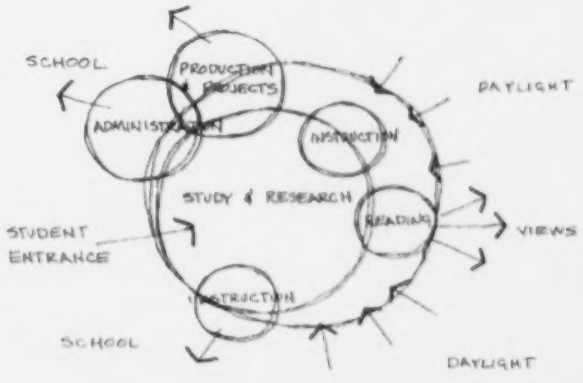
The cost of construction continues to rise and scrutiny by local government officials is increasing in many jurisdictions. School systems must carefully evaluate the size of each room built and cannot afford to duplicate or waste space. All educational

programs must be carefully coordinated. The library media program administrators and school principals will need to consider the merits of a fully unified library media program versus a more fragmented approach in which facilities for ancillary library media programs are located in other areas of the school under the supervision of other teachers. Computer graphics might be available in Art, desktop publishing in Business, TV Production in Drama. If equipment resources are limited, it may be better to locate items in the central library media center, equally visible and readily available to students and teachers in all programs. The school system must provide staff with the expertise to maintain these increasingly sophisticated resources.

The library media center is one of the most important and largest teaching spaces in any school building. It is also a public room, frequently used by community members. As far as the budget allows, designers are correct to specify high quality materials and attractive architectural features in the library media center. The library media center's size and prominence strongly determine the school's image. The talent of the architect and interior designer are on display in the library media center. High ceilings improve the proportions of large rooms. Interior glazing provides light and interesting visual contrasts. The appearance and durability of furnishings are particularly important since the heart of the library media center is its stacks, files, tables, and chairs.

The location and relationship of the library media center to building entrances and student traffic patterns are still important despite its technological connections to other parts of the building. The library media center is traditionally called the " heart" or "hub" of the school. Every academic program wants proximity and easy access for students. Administrators and teachers want convenient access for themselves during planning periods and a location that is easy to supervise during classes and after hours. The library media specialist wants to be away from noisy, heavily congested corridors at class changes and arrival/departure times. Unique scheduling and programmatic factors also will influence the location of the library media center. The library media center is often used for community meetings after school hours. It requires convenience to a main building entrance and parking.

LIBRARY MEDIA CENTER



At a regional conference in 1996 on the architectural design of high schools, Connecticut architect Roy Cook from the S/L/A/M Collaborative shared his vision of the library media center as a combination of resources, services, student activities, and virtual reality. He saw the "information resource center" as a classical library, a mega-bookstore with cafe, or a retail office copy center. Elementary library media specialist, Linda Sympson from Baltimore County Public Schools, envisions her center as a hive of busy bees and a sandbox of industrious ants experiencing, exploring, and learning. To one degree or another the school library media center may be all of these things.

Accessibility for Persons with Disabilities

Public schools must provide access for students with disabilities to all educational programs in the least restrictive manner. They also may not discriminate against individuals with disabilities in matters of employment and public services. Consequently, education facilities must be fully accessible to students, teachers, and public users. Title II of the Americans with Disabilities Act (ADA) requires public schools to comply with either the *Uniform Federal Accessibility Standard* (UFAS) or the *ADA Accessibility Guideline* (ADAAG). In addition to the federal standard, the Maryland Accessibility Code (COMAR .05.02.02) also applies. Maryland architects and school system facilities planners are familiar with these requirements. They apply to new construction and elements of a facility changed in renovations.

Accessibility guidelines were developed around adult needs. Adjustments for small children are sometimes necessary since the child has a more limited reach range. Final federal guidelines for building elements designed for children's use were published by the U.S. Architectural and Transportation Barriers Compliance Board in January, 1998. They are expected to be incorporated into the ADAAG as amendments by the Department of Justice during 1998. These advisory guidelines are available to school staff, parents, and designers.

Federal accessibility guidelines for telecommunication devices and systems are also under development. Industry representatives are heavily involved in the process. New products will reflect these developments. Most current telecommunications equipment can be effectively used and easily shifted to meet individual needs. Standard furniture and equipment can often be specified to meet the standards set forth by ADAAG/UFAS. Adjustable seat, table, and display surface heights are desirable.

ADAAG/UFAS sections critical to school library media center program space designs include:

4.0 Accessible Elements and Spaces: Scope & Technical Requirements
4.1 Minimum Requirements
4.2 Space Allowance and Reach Ranges
4.3 Accessible Route
4.4 Protruding Objects
4.5 Ground and Floor Surfaces
4.13 Doors
4.25 Storage
4.27 Controls and Operating Mechanisms
4.28 Alarms
4.30 Signage
4.31 Telephones
4.32 Fixed or Built-in Seating and Tables
4.32.5 Children's Fixed or Built in Seating and Tables
7.0 Business and Mercantile
7.2 Sales and Service Counters, Teller Windows, and Information Counters
8.0 Libraries
8.1 General
8.2 Reading and Study Areas
8.3 Checkout Areas
8.4 Card Catalogs and Magazine Displays
8.5 Stacks
Appendix
A.4.2.5 Reach - Children's Reach Ranges

The basic design objective is to provide circulation space wide enough for wheelchair users, both students and staff, to enter and maneuver in all areas within the library media center and to be able to reach materials and operate equipment. The distance between fixed equipment must meet circulation and access space requirements.

ADAAG 8.5 Stacks specifically states the minimum clear aisle width between stacks is thirty six inches and shelf heights in stack areas are not restricted. Wider aisles are preferred.

Carpet

With appropriate maintenance and replacement safeguards, carpet is a highly desirable flooring material for library media centers and offices because of its comfort, noise reduction, and appearance. Compared to a period in the 1970s when carpeting was widespread in new schools, many school systems now limit the use of carpet to those areas where its benefits are greatest. In some cases, wet or damaged carpet became a source of indoor air quality problems. In selecting a carpet flooring system, the designer must specify adhesives which emit low levels of volatile organic compounds and provide ventilation before, during, and after installation. It is important to provide appropriate grounding for electronic technology to minimize potential problems with static electricity. Carpet also requires an intensive maintenance program. It must be vacuumed daily with proper equipment and wet cleaned (shampooing and/or hot water extraction) several times a year. If this maintenance program cannot realistically be achieved, other flooring products should be selected.

Daylight

Recognition of the importance of natural daylight has increased in recent years. It is a source of warmth and light, but especially valued for its emotional and physiological benefits. Having natural light, windows, and views of the outdoors greatly increase a person's orientation and satisfaction with a space. All school rooms that are occupied all day should have windows and natural light. Windows are highly desired in the heavily used media center and are an important architectural feature of the space. High clerestory windows may be used above shelving. Skylights may be used in large central rooms if constant light and potential noise from rain are acceptable. Bay windows and window seats may be used in informal reading lounge areas. Glazed partitions allow natural light to be shared by interior offices and support rooms.

The primary issue concerning daylight in the library media center is providing the ability to control the light level for audiovisual presentations. The class instruction area of the library media center must be capable of being darkened significantly. In addition, strong direct sunlight is not desirable. It fades and degrades printed materials and may cause excessive glare and heat gain. Provide sunscreens, shades, blinds, or draperies to moderate the light.

Electronic Communications

Continuing developments in electronic communications affect many aspects of educational facilities design. Electronic communications systems via multimedia computers and video display terminals provide information from the world outside and from within the facility. The facility should be designed to maximize the potential of emerging voice, video, and data technology.

Maryland has established minimum technology capability standards for new and renovated schools. The standards address voice, video, data, and distance learning. The administration of the system is not prescribed and varies among local school systems. The instructional and administrative technology specialists in the school system will work with the library media specialist and school principal to define an appropriate system for the building. Location of equipment and the size of spaces required will depend on the management requirements. Where systems are unified and the library media specialist is responsible for instructional technology, a communications distribution room will be required in the administrative area of the library media center. In some school systems general office staff may supervise parts of the system, such as administrative file servers, and separate spaces will be required.

Technology today requires enough incoming and outgoing lines and data connections to serve all staff members and offices with a minimum of disruption and delay. Hearing aid compatible and volume control telephones and text telephones are required to meet ADAAG requirements. Telephone lines and high speed data lines, preferred over dial up connections, are particularly important in the school library media center to support administrative functions, e-mail, Internet access, fax machines, and modems. In addition to connections in the study and research area for data and online access for student use, each staff member's work station must have online, data, and voice access. With a backbone of fiber optic and/or category five wiring built into a school, most voice, video, and data needs can be met. This level of wiring allows additional hardware and software to be added as needs change.

Energy Conservation

Energy conservation is an important design goal in every project for environmental and financial reasons. The educational facilities design process for new schools and major renovations includes a required energy and life cycle cost analysis. Within the school library media center the following items will be analyzed:

- Site orientation, wind screens, and other natural factors
- Building envelope and spatial volumes
- Fenestration (the arrangement of windows and doors) and shading devices
- Thermal characteristics of materials
- Operating expenses based on hours of operation and capacity
- Types and amount of electrical equipment
- Types and levels of illumination
- Types of heating, ventilating, and air conditioning systems including special exhaust and ventilation systems.

The professional design reference commonly used is *ASHRAE/IES Standard 90.1-1989 Energy Efficient Design of New Buildings Except Low-Rise Residential Buildings.*

Environmental System Controls

Energy monitoring and control systems are frequently included in new school design. These allow technicians to regulate one or more buildings from a central location. Separate systems may be used for large sections of the building such as the library media center which have specific, unique requirements. If the library media center system is linked to the central system, technicians must schedule after-hour use into the control system in advance or manually override the settings.

Flexibility

Everyone wants the school library media center to be "flexible." Flexibility is the ability of a space to adapt to programmatic, institutional, and technological changes without major disruptions and expense. For the foreseeable future, the library media center will be a permanent, designated area in a school. Even though instructional technology will be widely distributed in classrooms throughout the building, highly specialized equipment and one of a kind resources will be available to all in the central library media center.

It is a given in school design in the late 1990s that voice, video, and data outlets must be in every instructional room of the school. In the marketplace, technology is continuing to change rapidly. In schools, school system budgets make changes occur at a somewhat slower rate. Nevertheless, options like wireless access and lattice networks under the floor will reduce reliance on walls and columns for electrical and network outlets in the future.

Over time, the library media center space may be divided, expanded, rearranged and/or reduced. Adjacent load bearing walls, corridors, stairways, restrooms, and other utility areas will limit the future adaptability of the library media center. Design details like custom, built-in furniture and floor level changes in storytelling areas also make rearrangement more difficult and expensive.

Providing a large open room is not the only answer to flexible space. Flexibility comes with the ability to reassign spaces from year to year. Flexibility increases by providing features such as an extra door to a corridor; ample, secure storage space to allow two or more users to share a room; various sized rooms to be used by many groupings of people; and adjustable, easy to move furniture. The architect will be asked to balance the needs of the library media program for dedicated space with the potential needs of unknown new educational programs.

Graphics, Signs, and Artwork

The library media center is the information center of the school. Students must be able independently to locate materials and operate computers and other equipment. Signs, labels, and clear directions are key. Students and teachers are accustomed to sophisticated, colorful, well coordinated, and effective graphics in stores, banks, arenas, and airports. They expect the same quality in the school and in the library media center. Commercial establishments frequently hire a graphic designer as a part of the architect's team. Most school systems will not. The architect will specify a basic sign package for the building. Enhancements for the library media center may require extra work and coordination by the library media specialist, facilities planner, and the architect.

The library media center is an appropriate place for the display of artwork. Art reflecting the neighborhood, city, countryside, and natural environment is suitable for reading areas, offices, and seminar rooms. The work of local artists or talented students might be featured. There is a danger of introducing too much visual clutter. Books, magazines, signs, and student displays easily can become visually distracting. The architect will provide a framework for display; the library media specialist will most likely select a changing collection of work to be displayed.

Indoor Air Quality

Indoor air quality problems can be discussed under two broad categories: the thermal environment and air contaminants. The thermal environment involves several variables that cause relative degrees of human comfort or discomfort. These include air temperature, radiant temperature of surrounding surfaces, uniformity of air temperature, humidity, and air movement. The equipment in computer and production areas will generate additional heat. Adverse thermal conditions can stress students or staff and in turn affect the quality of the learning situation. A year-round temperature range between 72 and 76 F degrees is generally acceptable, assuming fairly uniform conditions throughout a room with air motion in occupied locations within the space not above 30 feet per minute. The relative humidity should be maintained between 30 and 60% as a comfort and health consideration. In prolonged relative humidity above that range, fungi and bacteria have been shown to produce rapidly. Conversely, respiratory irritation and aggravation of cold symptoms are a consequence of too low humidity during cold weather.

The concentration of contaminants within the school are the result of emission rates from sources internal to the building and the rate of dilution through the supply of relatively contaminant-free outdoor air. Air contaminants consist of numerous particulates, fibers, mists, fumes, bioaerosols, and gases or vapors that can impair human performance. They may

present a full range of implications from mild irritation of the upper respiratory system to a serious health threat.

Because the library media center has a high concentration of people, one producer of contaminants is the occupants themselves. Humans generate odors and through sneezing, coughing, and talking, disperse microorganisms into the air. In addition, building maintenance and operations processes and building and instructional materials can emit volatile chemical vapors into the air.

Filtration can effectively remove airborne microorganism laden particulates, pollen and dust from the recirculated and outdoor air streams. The introduction of adequate outdoor air is recognized as an important HVAC system consideration. The architect and mechanical engineer will address these items. Design standards are published by national associations and required under building codes. MSDE has published a series of technical bulletins on many indoor air quality issues faced by schools. These are available to the school systems, designers, and the public.

Lighting

Lighting for the school library media center must be designed to support the numerous activities occurring simultaneously. General overall lighting is most commonly supplied by energy efficient fluorescent fixtures. Task lighting is often built into office systems furniture and placed above counters under wall mounted cabinets. Shadows cast by high shelving and glare from glossy surfaces can be problems. Readers benefit from daylight and adjustable reading lights. Computer users require lower light levels. Parabolic louvers or indirect lighting sources are often used to reduce glare in computer areas. Instructors need to be able to vary the light level and focus for effective viewing of different media - markerboard, video, overhead transparencies, slides, computer projections. Separate lighting zones and independent lighting controls are very important.

A lighting control point at the entrance/exit is needed for opening and closing the library media center. Light switch locks are available to prevent tampering. Emergency lights and very low-level "night" lights may be necessary.

Safety, Security, Loss Prevention

Public safety is an integral part of school design. Building and life safety codes address construction, fire protection, egress, and occupancy features necessary to minimize danger. Architects and local government agency reviewers are knowledgeable about the requirements. Fire suppression systems (sprinklers) are highly recommended but not required in every school building. The number of exits, the width of doors, the height of rooms, the distance between exits, the choice of floor, wall, and ceiling surfaces, and the construction of the partitions will be regulated by these codes. Safety alarm systems must include sound and flashing light to meet ADAAG specifications for persons with vision and/or hearing disabilities.

Security (one way in and out) versus safety (multiple remote means of egress) must be addressed. Electronic security systems with motion detectors and alarmed exit doors, are frequently included in school design to guard against unauthorized access and theft. The library media center must be included in the school's building-wide security plan.

In addition to the general security requirements, the school library media center has the added need to protect and prevent the loss of valuable collections and equipment. The most basic security design is to enclose the library media center, provide doors with locks, and limit student entrance and exit to one doorway except in emergencies.

Supervised staff areas may have additional entrances. Visual supervision by the library media specialist from the main circulation desk is important. The use of low shelving to divide areas and the arrangement of stacks ranges to allow unobstructed views increases security for the collection and the students. Larger schools frequently use materials security systems which require electronic coding of each item in the collection. Anyone leaving through the security gates with materials that were not demagnetized at the checkout circulation desk will set off an alarm.

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